Remarks

The foregoing amendments to the claims are believed to place the claims into condition for immediate allowance or into better condition for consideration on appeal. Moreover, the amendments do not raise new issues for consideration by the Examiner. Entry of the present amendment and reconsideration of this application is respectfully requested.

Upon entry of the foregoing amendment, claims 6, 12 and 13 are pending in the application, with claim 6 being the independent claim. Claim 6 is sought to be amended. Support for the amendment is found in the claims and specification as originally filed. Claims 12 and 13 are sought to be added. None of these changes is believed to introduce new matter, and entry thereof is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nova *et al.* (U.S. Patent No. 5,741,462) in view of Akram *et al.* (U.S. Patent 6,250,192), Geng *et al.* (*J. of Chromatography B.* 752:293-306 (2001)) and further in view of Hirabayashi *et al.*(*Proteomics* 1:295-303 (2001)). Applicants respectfully traverse this rejection.

The Examiner alleged that:

> Applicant has not defined direct or indirect binding in the specification. Therefore Examiner is broadly interpreting that any binding taught by the prior art inherently will be either by direct or indirect binding. Thus any art that teaches binding will read upon the currently recited claims.

Office Action at page 5. The Examiner further alleged that Geng *et al.* teach "wherein the form of binding between the protein and the LSI is direct binding or indirect binding." Office Action at page 7.

Applicants respectfully disagree. Geng *et al.* only teach indirect binding mediated by a *lectin.* Gene *et al.* do not teach indirect binding that is mediated by a substrate selected from the group consisting of cellulose vinyl acetate, α-cyanoacrylate, silicon denatured polymer, epoxy resin, and calcium sulfate. Thus, Gene *et al.* does not cure the deficiencies of the other cited art. As a consequence, a *prima facie* case of obviousness has not been established.

The present invention accomplishes labeling of a "protein that has a sugar chain" by (i) direct binding of the sugar chain to an LSI or (ii) indirect binding mediated by a substrate which cannot be a lectin. Since Geng *et al.* only teach *indirect* binding of a "protein that has a sugar chain" onto a support *mediated by a lectin*, Geng *et al.* fail to teach the forms of binding referred to in claim 6.

By not using lectin to mediate binding, it is expected that the claimed method will allow for detection analysis with lower background compared to when a protein is used that has a sugar chain immobilized indirectly by a lectin. Lectins are known to mediate non-

specific binding of proteins having sugar chains. The following documents demonstrate the non-specific binding of lectins to proteins having sugar chains:

1. Misaki *et al., Trance Nutrients Research 23*:28-38 (2006), attached hereto as Exhibit A, teach that banana fruit lectin binds to terminal α-Man/Glc as well as sugar chain's internal α-1,3-glucosidic linkages.

2. Misaki *et al., J. Biol. Chem. 272*:25455-25461 (1997), attached hereto as Exhibit B, teach that a *Crocus vernus* bulb lectin that binds specifically to terminal α-Man residues.

3. Saito, K. *et al., Eur. J. Biochem. 217*:677-681 (1993), attached hereto as Exhibit C, teach an orchid twayblade lectin that binds to α-Man residues.

Thus, the presence of a lectin mediating the biding of a protein that has a sugar residue to an LSI is expected to result in increased background associated with the binding of α-Man containing molecules. The present invention avoids this problem.

Moreover, the present invention provides a practical advantage when the protein having the sugar chain is bound directly to the LSI as it is expected that it can be removed easily.

Withdrawal of the rejection to claim 6 under 35 U.S.C. § 103 is respectfully requested.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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